Determination of Public Land (Rangeland) Health for 64055 SINKHOLE FLATS

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these Standards.

Field assessment worksheets and other available data which evaluate the local indicators, were completed for this allotment. Based on the assessments, it is my determination that the Public Lands within the Sinkhole Flats Allotment #64055 meet the Upland Sites Standard and (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard. There are no Public Land riparian areas on this allotment, therefore this Standard will not addressed.

/s/ T. R. KREAGER	10/16/2003
Assistant Field Manager	Date

Standards of Public Land Health
Evaluation of 64055 SINKHOLE FLATS Allotment
[07/07/2003]

The Roswell Field Office conducted rangeland health assessments at one study site within the SINKHOLE FLATS allotment #64055. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
64055-#1-F045	X			X	*		N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for the Sinkhole Flats allotment; 10 of these indicators assessed soil/site stability, 11 assessed hydrologic functions and 13 assessed biotic integrity. These qualitative assessments, along with quantitative information from long-term monitoring studies on one (1) study area, were utilized to assess the rangeland health of the public land within the allotment. These quantitative evaluations were performed by the Roswell Field office staff starting in the early 1980's. These included ground and vegetative cover and composition, production, frequency, and ecological condition as calculated from these collections which have been scheduled approximately every 5 years.

This allotment lies northeast of Roswell, north of US Highway 70. The allotment contains small tracts of private lands, and at one time may have been under the Homestead Act, as there are still indications that agricultural fields were laid out across the public lands. Grazing has been light to none in recent years, due both to drought and financial situations of the allottee.

This area has possibly experienced a decrease of aggregated organic matter (OM) at the soil surface, a lack of adhesion of OM to the soil surface, and drought and wind and water erosion conditions that may have resulted in increased soil surface erosion. The indicators for soil surface resistance to erosion rated as moderate. Biological crusts are present which increase infiltration into the soil. Rock outcrops of gypsum and dolomite occurr in the area from the Seven Rivers Formation. Quaternary terrace gravels deposits outcrop in the area. The HOLLOMEX soils in the area are underlain by gypsum, mudstone, and dolomite of the Seven Rivers Formation and Quaternary terrace gravel deposits.

One Ecological site predominates this allotment, Salt Flats SD-3, with varying infestations of rayless goldenrod and islands of salt cedar. At one time, one part of the allotment was home to black tailed prairie dogs, now long gone.

The majority of the Upland and Biotic Standards fall within either the Slight or Slight to Moderate Category, with only Soil Surface Resistance to Erosion and Annual Production being rated at Moderate. Annual production was lower than expected, probably inflluenced by low amounts of available moisture.

As the Invasive Plants were fairly limited in distribution, the allotment presents an opportunity for salt cedar control, utilizing integrated pest management control methods exists. Methods which might be available include mechanical removal, cut and stump treat with herbicide, foliar application of herbicide leaving the skeleton trees for wildlife habitat, and biological controls. Past allottees have entered into Cooperative agreements with BLM for spot treatment of the goldenrod, using appropriate herbicides. As the allotment was authorized for Non-use for a period of several years, a prescribed fire was conducted to eliminate decadent material and to stimulate new growth of the alkali sacaton.

Recommendations: Wildlife & Special Status Species - A concern is the health of the grassland habitat for pronghorn antelope, grassland bird species and the black-tailed prairie dog. Efforts to maintain a healthy grassland ecosystem is needed to maintain viable populations of these species. The RMP states that no surface disturbance would be allowed within the prairie dog colony and should be based on the largest extent of the colony in 1981 at 133 acres. Habitat and population evaluations would address the biotic indicator monitoring needs.

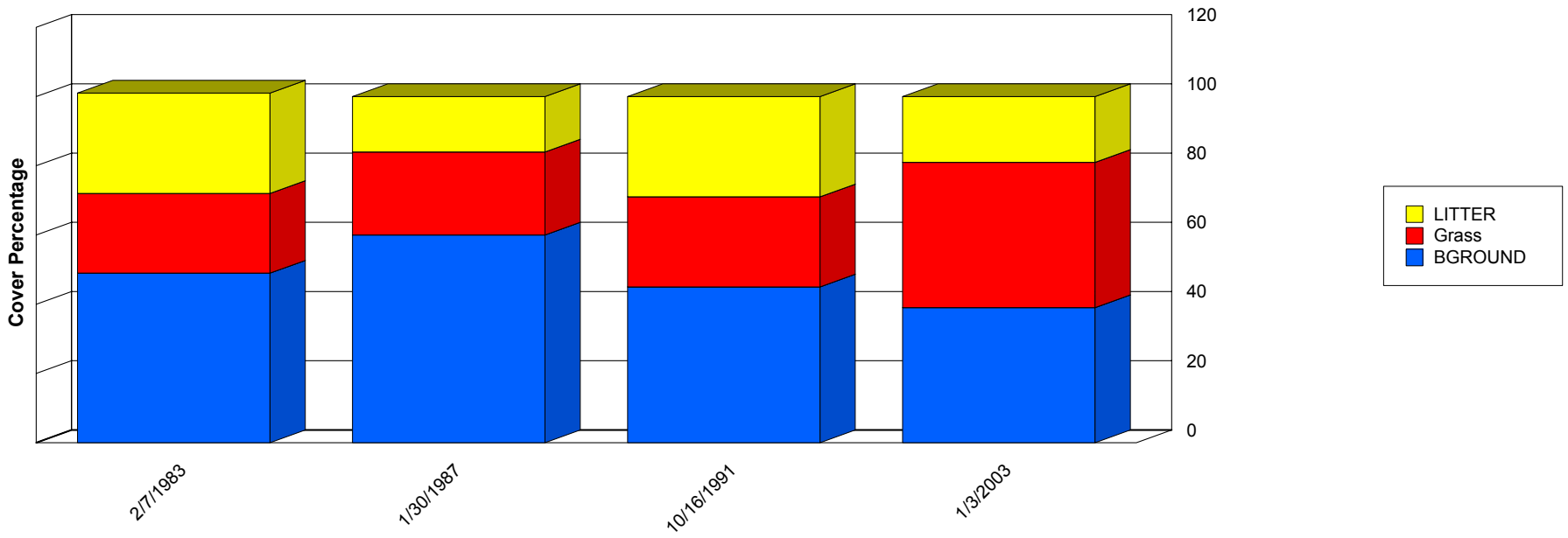
Range: This grazing allotment is one of the smallest controlled BLM allotments within the Roswell Field Office, Coordination with the allottee to implement an invasive plant control program would benefit the vegetation within the allotment, as well as reduce the seed source to surrounding areas where salt cedar control has already been implemented. As the allotment is small, grazing deferment which is vital to project success, may be difficult to implement, but the long term benefits would definitely be worth the short term inconviences.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 64055-#1-F045			
Legal Land Desc	SWNE 27 0090S 0240E Meridian 23	Acreage	1450
Ecosite	042CY036NM SALT FLATS SD-3	Photo Taken	Y
Watershed	13060007010 GOPHER		
Observers	MILLER/NAVARRO/MCGEE	Observation Date	07/08/2003
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	HhA	Soil Taxon Name	HOLLOMEX
Texture Class	NM644 L	Soil Phase	HOLLOMEX
Texture Modifier	NM644 LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	12.1	NOAA Growing Season Precipitation	7.75
NOAA Avg Annual Precipitation	12.8	NOAA Avg Growing Season Precipitation	10.44
Disturbances and Animal Use:			

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:	None in evidence.					
S H	Water Flow Patterns					X
Comments:	flow patterns when found are short.					
S H	Pedestals and/or Terracettes					X
Comments:	Expected for the site.					
S H	Bare Ground				X	

Ground Cover Trends



	2/7/1983	1/30/1987	10/16/1991	1/3/2003
BGROUND	49.00	60.00	45.00	39.00
Grass	23.00	24.00	26.00	42.00
LITTER	29.00	16.00	29.00	19.00
Total	101.00	100.00	100.00	100.00

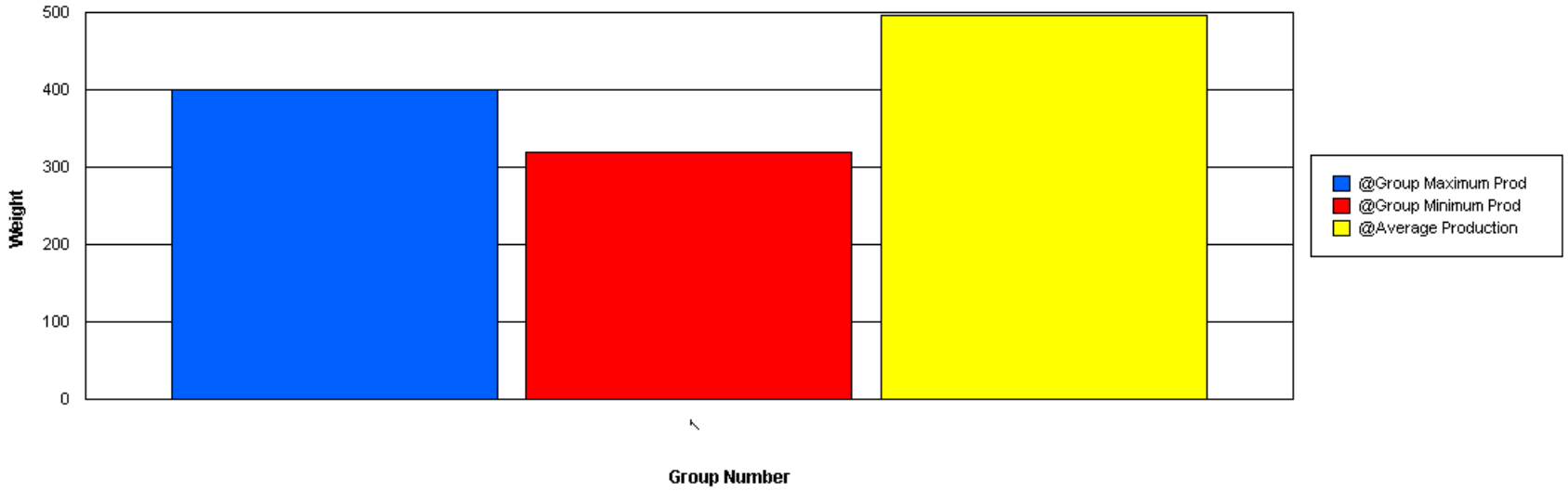
Report Parameters

SITE NAME LIKE	64055-#1-F045
ON/AFTER	10/01/1982
ON/BEFORE	09/30/2003

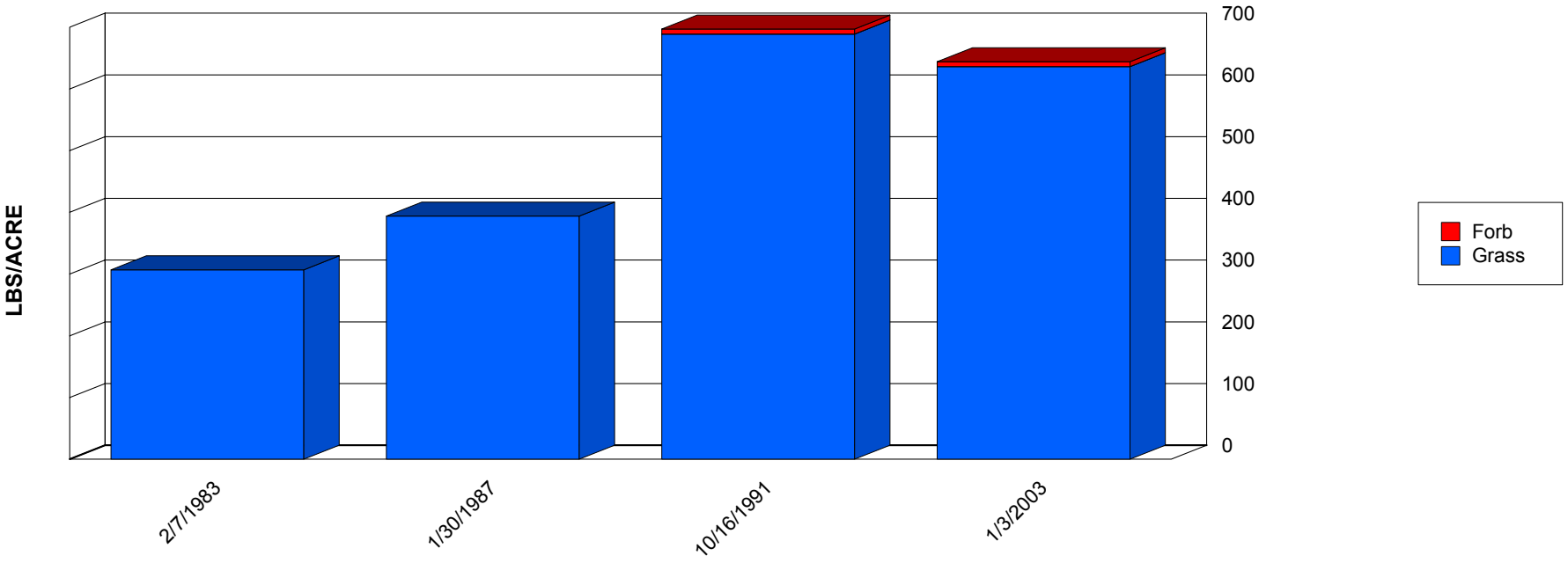
Functional / Structural Groups

Report Parameters	
SITE NAME LIKE	64055-#1-F045
ON/AFTER	10/01/1982
ON/BEFORE	09/30/2003
MIN LBS TO GRAPH	3
SELECTED ECOSITE	042CY036NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	SPAI	320	400	305.00	681.00	495.50	151.94
6	Grass	ARIST	40	80	0.00	8.00	2.50	3.28



Production Lbs/Acre Trends



	2/7/1983	1/30/1987	10/16/1991	1/3/2003
Forb	**0.00**	**0.00**	**8.00**	**8.00**
Grass	**307.00**	**394.00**	**689.00**	**636.00**
Total	**307.00**	**394.00**	**697.00**	**644.00**

Report Parameters

SITE NAME LIKE	64055-#1-F045
ON/AFTER	10/01/1982
ON/BEFORE	09/30/2003

Comments:						
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement				X	
Comments:	Some movement, but not much.					
S H B	Soil Surface Resistance to Erosion			X		
Comments:	Physical crusts stabilizing interspaces.					
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff					X
Comments:	Biological crusts.					
S H B	Compaction Layer					X
Comments:	No recent use of compacting factors.					
B	Functional/Structural Groups				X	
Comments:						
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:						
B	Annual Production			X		
Comments:	Influenced by weather/drought.					
B	Invasive Plants				X	
Comments:						
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:	Biological and lichens present.					

B	Wildlife Habitat				X	
Comments:	This is primarily a grassland habitat type that is relatively undisturbed. Impacts to the area include agricultural land, roads, a major highway, various rights-of-ways associated with oil and gas activity and power, and range improvement. A shooting range is found south of the allotment along the highway. Although in close proximity to the City of Roswell, the area remains relatively undeveloped. Some scattered saltcedar are found in the grasslands. Primary wildlife species include pronghorn antelope and grassland birds species, a special status species is the black-tailed prairie dog, a keystone species of grassland habitat with its inherent guild of other wildlife species dependent on the town such as burrowing o					
B	Wildlife Populations				X	
Comments:	Pronghorn herds frequent the area and utilize some of the ag fields nearby. Populations appear stable at this time. Not much is know about grassland bird species populations in this area.					
B	Special Status Species Habitat				X	
Comments:	The prairie dog colony was heavily populated at one time. In 1978, the colony was estimated to be 133 acres in size. Prairie dog control was conducted on this allotment in the past. Today, it has shrunk down to about 8 acres but has the potential to grow again with protection. Prairie dog control is no longer authorized on public land except when concerning health issues.					
B	Special Status Species Populations				X	
Comments:	An actual estimate of the prairie dog population has not been determined at this time, only acreage of the existing colony. The remaining population is small but well-established. It is hoped that the colony will grow over time. No other forseeable developments are anticipated in the area at this time.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

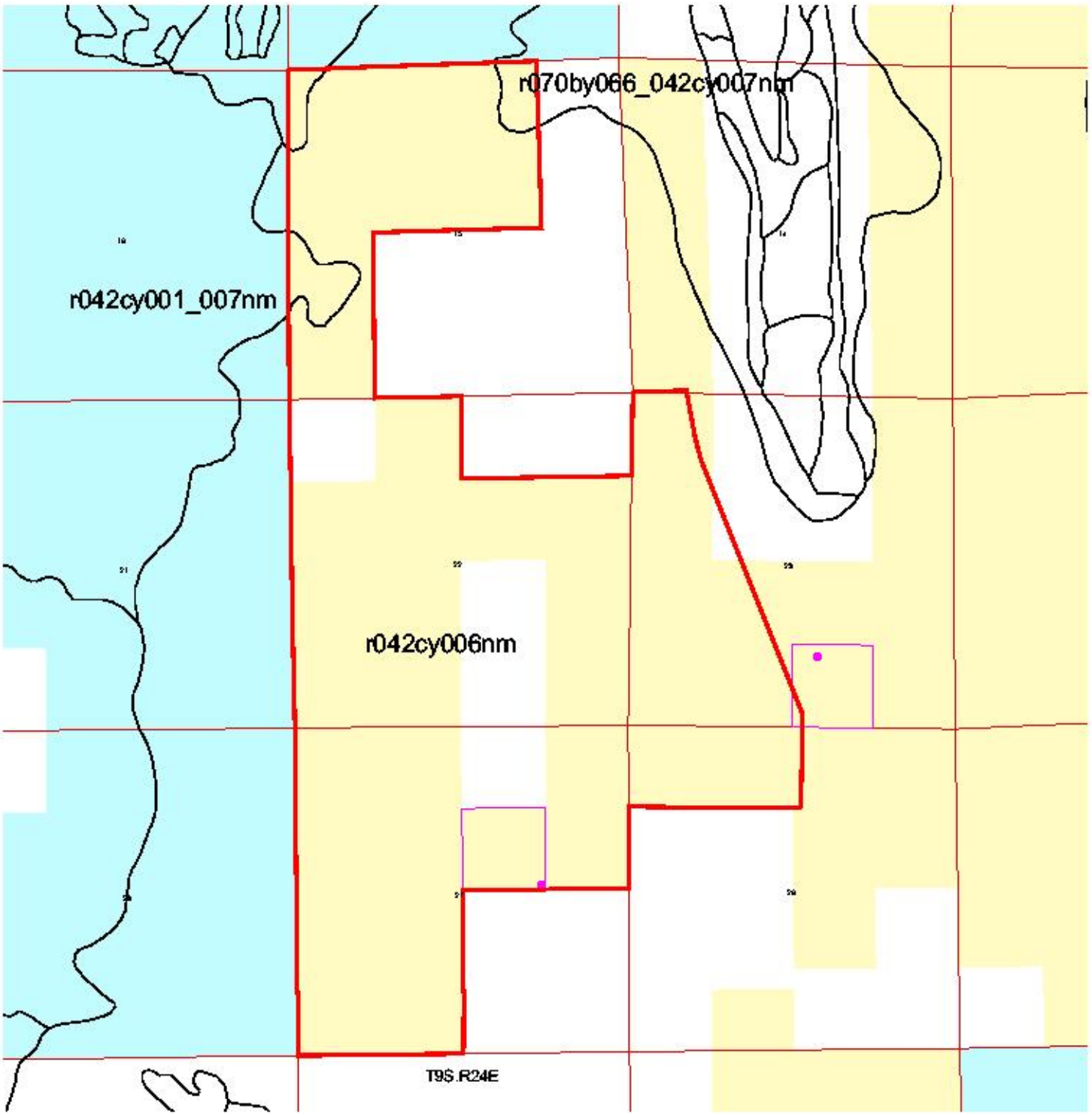
Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	1	3	6
H	Hydrologic	0	0	1	4	6
B	Biotic	0	0	2	8	3

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	1	9
Hydrologic		0	1	10
Biotic		0	2	11

Site Notes:

Rangeland Health Assessment
Ecological Sites
Allotment - 64055



Study Plots
40 Acres

Study Locations

State

Private

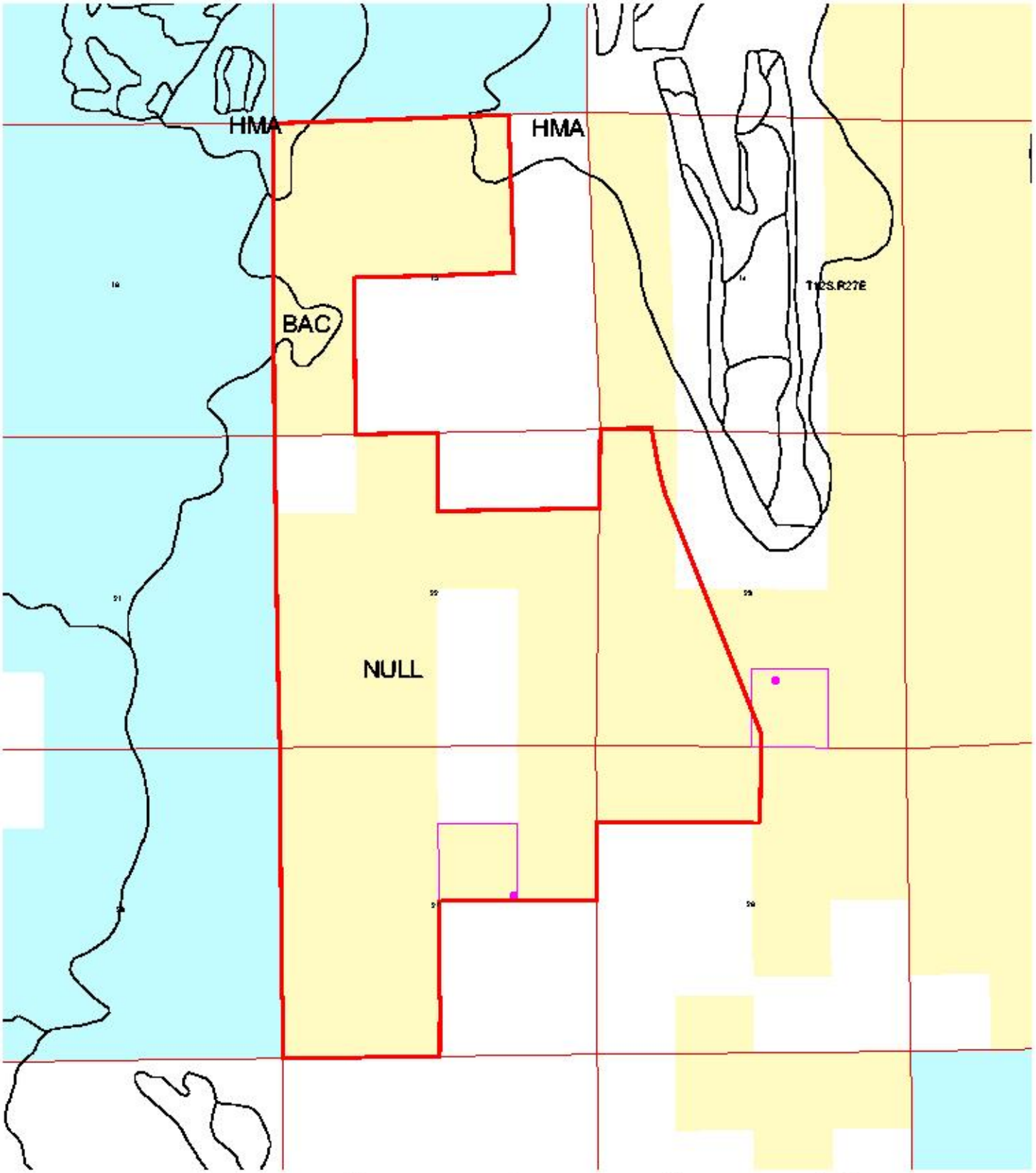
Public

Allotment Boundary

Ecological Site Boundary

Produced by the Roswell Field Office
GIS Specialist on Oct. 16, 2003.

Rangeland Health Assessment
Soil Mapping Units
Allotment - 64055



Study Plots
40 Acres

Study Locations

State

Private

Public

Allotment Boundary

Soil Mapping Units

Produced by the Roswell Field Office
GIS Specialist on Oct. 16, 2003.